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(71) Applicant: MITSUBISHI ELECTRIC CORP

(72) Inventor: MITSUTA KENRO
SATO MINORU
KATASHIBA HIDEAKI
OUCHI YASUSHI

(54) ELECTROCHEMICAL CATALYST FOR EXHAUST GAS PURIFICATION

(57) Abstract:

PROBLEM TO BE SOLVED: To provide an exhaust gas purifying catalyst which dispenses with frequent switching to a rich atmosphere, which frequent switching is necessary for the conventional exhaust gas purifying catalyst, because the conventional catalyst carries out oxidation reactions and reduction reactions on the same catalyst particles at the same time, so that, when operated in a lean atmosphere, a rich mode to temporally switch to a lean atmosphere must be often performed to reduce NOx.

SOLUTION: This catalyst is formed by mixing a catalyst A 1 comprising a NOx absorbing substance and a NOx reducing catalyst, a catalyst B 2 comprising a hydrocarbon adsorbing substance and a hydrocarbon oxidizing catalyst, and a mixture 3 of an electron conductive substance C and an ion conductive substance D. Electrons are moved between the catalyst A 1 and the catalyst B 2 through the electron conductive substance C, and ions are moved through the ion conductive substance D. Electrochemical reduction reactions in the catalyst A 1 and electrochemical oxidation reactions in the catalyst B 2 progress separately, and the reduction of the absorbed NOx is promptly carried out by using the adsorbed hydrocarbon regardless of atmosphere.